

**Montana Board of Oil and Gas Conservation  
Environmental Assessment**

**Operator:** Anschutz Exploration Corporation  
**Well Name/Number:** Pine Ridge 3-14H-37-13  
**Location:** NE SE Section 14 T37N R13W  
**County:** Glacier, **MT;** **Field (or Wildcat)** W/C

**Air Quality**

(possible concerns)

Long drilling time: 15 to 25 days drilling time.

Unusually deep drilling (high horsepower rig): Yes, triple derrick drilling rig for a 5,463'MD/3,160'TVD single horizontal lateral Virgelle Formation test.

Possible H2S gas production: No H2S anticipated.

In/near Class I air quality area: Yes, Class I air quality area, Blackfeet Reservation.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Triple derrick drilling rig to drill a 5,463'MD/3,160'TVD single horizontal lateral Eagle/Virgelle Formation test.

**Water Quality**

(possible concerns)

Salt/oil based mud: Yes, will use an oil based invert drilling fluids from under surface casing to total depth. Freshwater and freshwater mud system will be used on drilling surface hole.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest surface drainages are Willow Creek, about ¼ of a mile to the northwest and the St. Mary Canal, about 1/8 of a mile to the south from this location.

Water well contamination: No, no water wells within 1 mile from this location.

Porous/permeable soils: Yes, sandy silty soils.

Class I stream drainage: Closest Class I stream drainage is the Middle Willow Creek, about 0.25 mile to the northwest from this location.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☒ Off-site disposal of solids/liquids (in approved facility)

☐ Other: \_\_\_\_\_

Comments: 1000' of surface casing cemented to surface adequate to protect freshwater. Also, fresh water mud systems to be used on surface hole.

**Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings: None anticipated, crossing ephemeral drainages only.

High erosion potential: No, small cut, up to 4.2' and small fill required up to 9.1', required. Utilizes the same drilling pad as the Pine Ridge 2-14-37-13.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, large, 400'X400' location size required.

Damage to improvements: Slight, surface use is grassland.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28)

Comments: Using existing county roads, Galbreath Road. Access off existing Galbreath Road, on to the St. Mary Canal service road approximately 2 miles, a short access will be constructed into this location off the St. Mary Canal service road. Oil based drill cuttings will be solidified and buried in a separate lined reserve pit. Freshwater drilling fluids and cuttings will be allowed to dry in the pit. Oil based drilling fluids will be recycled back to the drilling fluid company. Oil based drill cuttings will be solidified and buried in a separate lined pit from the water based cuttings. Pits will be backfilled when dry. No special concerns

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## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: There are no residences within 2 mile radius of this wellsite. Closest town is Babb, Montana, about 10.6 miles to the southwest from this location.

Possibility of H2S: No H2S anticipated.

Size of rig/length of drilling time: Triple derrick drilling rig to drill for about 15 to 25 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: No concerns, proper BOP stack and surface casing should be able to control any problems that occurs. General wind directions are from the north and west.

## Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None, identified  
Proximity to recreation sites: Glacier National Park is about 15.25 miles to the west from this location. Duck Lake is about 6 miles to the southwest from this location.  
Creation of new access to wildlife habitat: No, private grasslands.  
Conflict with game range/refuge management: No conflict with game range/refuge areas.  
Threatened or endangered Species: Species identified as threatened or endanger in Glacier County are Grizzly Bear, Canada Lynx and Bull Trout. Candidate species are Meltwater Lednian Stonefly, Sprague's Pipit, Wolverine, Whitebark Pine. NH tracker website lists 5 species of concern, Grizzly Bear, Spoonhead Sculpin, Westslope Cutthroat Trout, Trout Perch and Bull Trout.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: \_\_\_\_\_

Comments: Private grassland. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands. The original wellsite for the Pine Ridge 3-14H-37-13 is the same drillsite for the Pine Ridge 2-14-37-13. No concerns

### Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: \_\_\_\_\_

Comments: Private surface grassland. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

### Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Rank wildcat well. Social and economic impacts are unknown at this time.

### Remarks or Special Concerns for this site

Well is a 5,463'MD/3,160'TVD single lateral horizontal Eagle/Virgelle Formation test.

**Summary: Evaluation of Impacts and Cumulative effects**

No long term impacts expected. Some short term impacts will occur.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): \s\Steven Sasaki  
(title:) Chief Field Inspector  
Date: November 23, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website  
(Name and Agency)  
Glacier County water wells  
(subject discussed)  
November 23, 2011  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES  
MONTANA COUNTIES, Glacier County  
(subject discussed)

November 23, 2011  
(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_